

MOREIN -- 10/076,350
Client/Matter: 013540-0290727

REMARKS

Reconsideration and allowance of the above-identified Application in view of the following remarks are respectfully requested.

Claims 1-44 are pending in the Application.

Rejection under 35 U.S.C. § 103

Claims 1-44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Duluk (U.S. Patent No. 6,476,807) in view of Duluk (U.S. Patent No. 6,717,576). For at least the following reasons, applicant respectfully requests that this rejection be withdrawn.

Claim 1 recites determining that a scratchpad contains an entry mapped to a pixel. Claim 1 also recites comparing a Z value of a fragment corresponding to the pixel to a value of the entry.

Claim 27 recites determining whether a scratchpad contains an entry mapped to a pixel. Claim 27 also recites comparing a Z value of a fragment corresponding to the pixel to a value of the entry.

Claim 36 recites determining that a scratchpad contains an entry mapped to a pixel. Claim 36 also recites determining an occlusion status of a fragment corresponding to the pixel, based on a value of the entry.

Claim 38 recites a logic circuit configured to determine that a scratchpad contains an entry mapped to a pixel. Claim 38 also recites that the logic circuit is configured to compare a Z value of a fragment corresponding to the pixel to a value of the entry.

The Office Action concedes that Duluk '807 does not teach a scratchpad that contains an entry mapped to a pixel. However, the Office Action states that Duluk '807 teaches comparing a Z value of the fragment to a value of the entry. Applicant respectfully submits that it is not possible for Duluk '807 to teach performing any operation on a value of the scratchpad, when Duluk '807 fails to teach the scratchpad itself.

MOREIN - 10/076,350
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The Office Action states that in Figs. 55 and F4a,b and at col. 210, l. 45 - col. 211, l. 30, Duluk '576 teaches a scratchpad as recited in applicant's claims. The table in Fig. 55 of Duluk '576 (also found in Fig. G31 and in col. 93) identifies nine different caches:

- 1) Colorvertex cache. This cache stores color packets of variable size (col. 93, l. 43 - col. 94, l. 10).
- 2) MLM PTR cache. This cache stores pointers to addresses of state packets that identify material, lighting, and mode states (col. 35, ll. 1-2; col. 90, l. 56 - col. 91, l. 10).
- 3) Colordata cache. This cache stores color data (col. 202, l. 43 - col. 203, l. 7). Duluk '576 also mentions other caches in the FRG block which store mode information (col. 203, ll. 8-33).
- 4, 5) TextureA, TextureB caches. These caches store texels (texture elements) (col. 207, l. 25 - col. 212, l. 17; col. 213, l. 44 - col. 215, l. 27; see also Figs. F4a,b).
- 6) Material cache. This cache stores material data (col. 238, ll. 18-30).
- 7) Light cache. This cache stores lighting information (col. 238, ll. 9-17).
- 8) Pixelmode cache. This cache stores state information (col. 299, l. 5 - col. 300, l. 11; col. 319, TABLES 6, 7).
- 9) Stipple cache. This cache stores stipple patterns (col. 300, ll. 12-22; col. 320, TABLE 10).

Applicant respectfully notes that none of these caches stores Z values. While the Pixelmode cache stores state information relating to configuring Z operations (e.g. col. 299, ll. 32, 51, 53, and 57), this information relates to a state of the pipeline and not to any value of a pixel or fragment. Applicant finds no suggestion in Duluk '576 of any scratchpad or cache that stores Z values.

More importantly, applicant is unable to find any teaching in Duluk '576 of a comparison of any of these cache values to a Z value of a fragment. Applicant is also unable to find any teaching in Duluk '807 of a comparison of any of these cache values (i.e. non-Z values) to a Z value of a fragment.

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Therefore, applicant respectfully submits that neither Duluk '807 nor Duluk '576 may be said to teach comparing a Z value of a fragment to a value of a scratchpad entry (as recited in applicant's claims 1, 27, and 38) or determining an occlusion status of a fragment based on a value of a scratchpad entry (as recited in applicant's claim 36). As neither reference teaches at least these elements, no combination of these references may be said to disclose the elements of applicant's claims.

Applicant respectfully submits that claims 2-26, 28-35, 37, and 39-44 are allowable at least by virtue of their dependence from claim 1, 27, 36, or 38. Applicant also respectfully submits that at least the following claims are also allowable for additional features recited therein:

Claims 10, 30, 41 (determine whether a Z value of the fragment is less than the value of the entry);

Claim 11 (overwriting the value of the entry with the Z value of the fragment);

Claims 31, 32, 42, 43 (initialize the value of the entry to the backmost among a set of (representative) Z values);

Claim 33 (storing the Z value of the fragment to the entry).

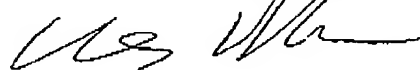
All objections and rejections having been addressed, applicant respectfully submits that the application is in condition for allowance and earnestly requests a notice to that effect. The Examiner is invited to contact the undersigned representative if the Examiner believes that any particular point or issue could be effectively addressed in such manner.

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Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP LLP



KERRY T. HARTMAN

Reg. No. 41,818

Tel. No. (703) 905-2085

Fax No. 703 905-2500

Date: September 16, 2004
P.O. Box 10500
McLean, VA 22102
(703) 905-2000